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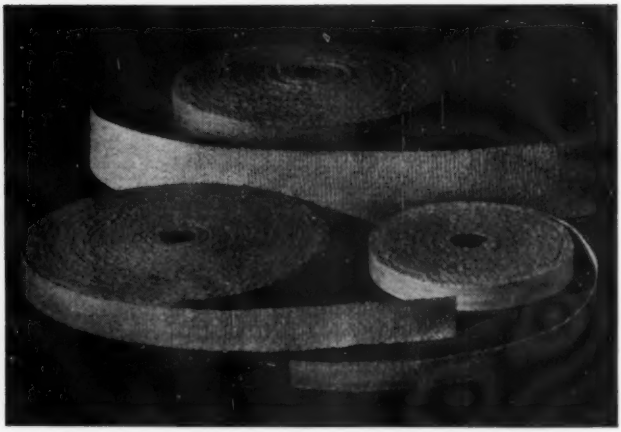
MARCH 1957



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AMOSITE-MONTASITE
THE UNIQUE FORMS OF AMPHIBOLE ASBESTOS

By W. E. Sinclair, M.I.M.M.

In the light of the special interest shown in crocidolite asbestos today, a new picture is revealed in the old story of Amosite and its close relation to crocidolite or "Blue" fibre.

This review affects both producer and manufacturer. As would be expected, however, the final say rests with the latter, for after all, the initial value of a commodity depends entirely on the demand for the manufactured product, as this is influenced by the consumers requirements.

The manufacturer of asbestos products, on the other hand, is not only guided by the demand for his products, but is often limited in his scope of utilization, within certain bounds, practically and economically, notwithstanding the quality of the raw material available.

The average producer and most others interested in the production and application of these special types of amphibole asbestos, (that is, amosite and montasite) find it somewhat puzzling that there should be any marked difference in value between these and "Blue" asbestos. For, except for color and fibre length, there is a similarity in their chemical and physical properties, a fact that is borne out by their close association and occurrence in the same geological formation in the Transvaal. Indeed this mutual association is also evident by the similitude of their application in industry.

There is, however, the matter of color. Amosite and Montasite vary from whitish to grey and brown and because of these light colors have, at times been referred to as "white amphibole asbestos". The extreme length of the fibres are characteristic of the series and form an outstanding feature.

From a practical aspect it is doubtless this fibre length that constitutes an important factor, as compared

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with other amphiboles, in its sphere of usefulness. From a productive point of view and subsequent economic aspect, there is no doubt that the development of the long fibre strands is a most important point. First, this condition tends to increase the value of the ore, or fibre-bearing strata, in which amosite occurs. The prolific fibre growth increases "face" values which makes for easier extraction at a lower cost. This, of course, means that the fibre recovered can be sold at a much lower price than, say, crocidolite asbestos, which normally occurs in narrow seams at a much lower "face" value.

Cheaper production, resulting from the exploitation of the mineral on a large scale basis, has made possible the marketing of the product at about half the price of crocidolite asbestos and incidentally has put the small amosite producer right out of business, even where amosite occurs with crocidolite seams in the same deposit.

During 1955 the value of the estimated monthly output of amosite (4400 tons) was £41. per ton. While that of crocidolite (Blue), 7900 tons, averaged £71 per ton. Nevertheless, the demand for crocidolite is consistently larger and more stable, despite its higher selling price.

The whole position provides much food for thought and the aim of this article is to consider this paradoxical position, without, I trust, any possible attack of mental indigestion!

Before going further, the place of montasite in this series should be made clear. Originally it was suggested that this class of fibre represented a distinct species, but now it is generally accepted that amosite and montasite are one and the same amphibole variety differing only in physical attributes due to small differences in their chemical make up. Such minor physical differences are not uncommon in most varieties of asbestos.

The following comparative analyses of the chemical composition of amosite and montasite compiled from the mean of several representative samples, indicate the difference referred to:

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	Amosite	Montasite	Crocidolite
SiO_2	49.68	55.90	53.49
Al_2O_3	1.91	0.47	0.24
Fe_2O_3	2.60	2.07	14.15
Fe O	37.62	32.40	20.69
Mg O	4.62	4.57	2.67
Ca O	0.70	0.77	0.28
Na_2O	0.71	Tr.	5.41
K_2O	Tr.	0.37	—
Moisture	—	0.75	0.17
Combined Water	0.76	2.65	3.04
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The higher silica content of montasite was partly responsible for the idea that it might be a special class of asbestos, but in actual fact, it is probably because of this and other minor changes that the amosite fibres are lighter in color and finer in texture as is characteristic of the so-called montasite occurrences. It is in this form that this amphibole type is sometimes soft enough to qualify as spinnable, which is not common with the usual harsher amosite fibres.

The variety, as a whole, is classed as a series of monoclinic amphibole minerals in the cummingtonite-grunerite group and chemically and mineralogically as one common species.

As a matter of interest, an average analyses of crocidolite (Blue) asbestos is shown for comparison with the amosite-montasite series. The obvious difference is the higher soda content of crocidolite, which together with iron, is said to account for the blue color of the fibre.

The high iron content of amosite accounts for the original classification of this fibrous amphibole as a ferro-anthophyllite, a definition that has since been rejected.

The amosite asbestiform minerals are unique first, because of the long fibres common to this variety. Fibre lengths up to ten inches are not uncommon, while the average ranges from 2 inches to 5 inches. This is a physical characteristic that, as a persistent development, is certainly unusual in the amphibole varieties of asbestos. Secondly, its occurence, as a commercial mineral, is confined to the Transvaal asbestos field.

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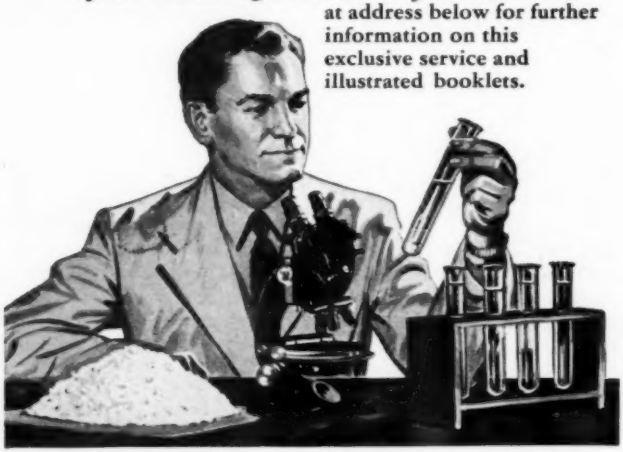

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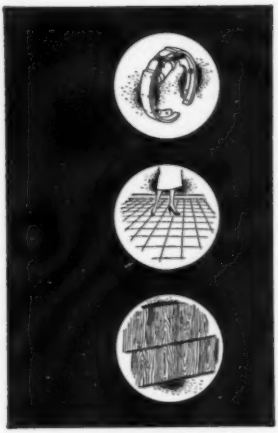
The occurrence of fibrous material, resembling amosite either physically or chemically, has been recorded from regions as far apart as the Cape asbestos field and in ironstone formations in Idaho, U. S. A.*. Other reports of indications of amosite amphiboles, mainly of the ferro-anthophyllite series, have been noted from time to time in various other localities, but actually, in every case there are always conflicting factors that make the discoveries questionable. Anyway, no persistent or extensive deposit of commercial or economic value has yet been found and therefore the amosite deposits extending for over sixty miles in the banded ironstone in the Lydenburg-Pietersburg belt of the Transvaal, constitute the only large reserves of this valuable fibrous mineral in the world.

The discovery and naming of the variety by A. L. Hall in 1910, and the commercial exploitation of the deposits in 1915, made the Union of South Africa the only asbestos mining field that produces every known variety of asbestos, namely: amosite, anthophyllite, chrysotile and crocidolite (blue).

A most curious feature of the amosite variety is that, in the Transvaal ironstone formations, in certain well defined areas, the fibre is found in close association with normal seams of "blue" crocidolite fibres anastomosing regulary in a common channel. By contrast, in the N. W. Cape banded ironstone formations (of the same geological age as the Transvaal System), amosite is unknown, except for one or two doubtful freak occurrences. The possible explanation for this extraordinary condition involves a somewhat controversial assumption too long to discuss here. Another unexplained condition is that the occurrence of the montasite class of fibre in the Lydenburg-Pietersburg belt is not regular or continuous. Its greatest development occurs in those deposits in and around the farm Montana, but it is also found in other areas especially where amosite fibres are predominant.

The fact remains that commercially the amosite variety has today found an important niche in asbestos application after a somewhat up-hill struggle, dating back to the first introduction of the fibre to the asbestos indus-



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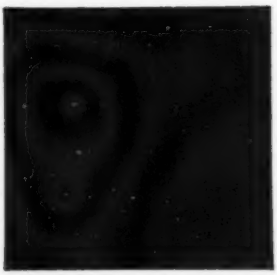

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try about forty years ago. Manufacturers at that time were not interested in the new variety and were reluctant to make use of the asbestos, either because the fibres were too long or too harsh for their processing machinery. To overcome these initial objections, producers actually tried guillotining the long fibres into shorter lengths and then subjecting these to more intensive fiberization. The later discovery of the softer montasite fibres tended somewhat to override the early prejudices, but by that time, the principal amosite producers had established their own factory to prove the true value of this new class of asbestos in special spheres of industrial applications.

Amosite asbestos naturally enjoys decided advantages where extreme length and bulkiness of fibres are considered desirable attributes in uses other than spinning. This is especially important in the manufacture of dry-packed insulation, particularly in such products as asbestos mattresses used for the prevention, by radiation, of steam losses in boilers and steam piping. Used in such form and in "slabs" and pipe sections, amosite has a decided advantage over crocidolite asbestos because of the greater strength of the longer fibres in such products. The long fibres also tend to withstand shock in transport, handling and in continuous operations. To maintain the strength of the insulation where this is subjected to fairly steady or irregularly vibration is a most important function. Similarly, the resistance of the insulation to extreme weather conditions, varying from intense heat to freezing temperatures, plus possibly heavy moisture, is a valuable attribute of this class of fibre.

Besides these natural properties the fibre is inexpensive in the matter of supply and special application to any all-asbestos insulating requirements, and, in addition, offers certain economy in operating costs, depreciation and maintenance, simply because this class of fibre is cheaper than any other type of asbestos.

Temperature resistance in amosite is indicative of yet another of its natural properties, since it is able to withstand direct contact with hot surfaces of up to 1000 degrees F. with no loss of efficiency. In cases of direct heat contact the fibres may turn dark brown in color and be-

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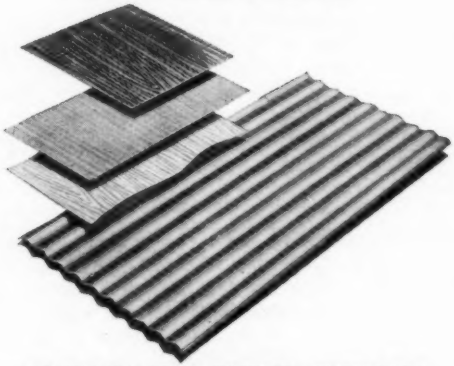

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come brittle, whereas in similar conditions crocidolite fibres form a melt of black glass and chrysotile fibres blacken and fuse. Incombustibility then is superior to that of crocidolite and approaches that of chrysotile.

Amosite finds a most useful niche in the chemical industry. As an agent for filtration it is of outstanding value. Acids have little effect on the fibre, except that after immersion for some time they become lighter in color due to the removal of some of the hydrated iron ore in the fibres. No deterioration results in the flexibility and tensile strength of the fibres. Except for the superior length of the amosite fibres, crocidolite also possesses these qualities, plus greater tensile strength of the "Blue" fibres, and incidentally both of these amphiboles are superior to chrysotile in their resistance to acids, chemical solutions and sea water. These factors, apart from their value in the chemical industry, give amosite an especial place in equipping sea going ships of all types, with every class of asbestos insulation and other products commonly used in vessels exposed to the vagaries of extreme climatic conditions and, the corrosive effects of sea water.

It would make this article too long to even summarize the full scope of amosite asbestos both as an all-asbestos insulating medium or its use in conjunction with other commodities (as for instance, in magnesia insulation). The full extent of its application is far reaching.

The examples quoted however, are sufficient to show the oustanding properties of the amosite variety of asbestos and its commercial value in many spheres of industry.

This, in certain specialized avenues is undisputed, but despite its unique features and lower price value, its limited application has in no way displaced its close relation, crocidolite or "Blue" asbestos, in its own field of utilization.

*** The source of information is from the study of the Idaho formation by Dr. E. V. Shannon, who recorded his observations in two technical papers, viz: "'Description of ferro-anthophyllite, an iron amphibole from Idaho, with a note on the nomenclature of the anthophyllite group." Proc. U. S. National Mus. 1921, and "A metamorphic amphibole from Custer County, Idaho." Amer. Jour. Sci. 9, 1924.**

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DETERMINATION OF CELLULOSIC AND GLASS FIBRES IN MIXTURES WITH ASBESTOS

By C. Z. Carroll-Porczynski

It has been shown (Journal of the Textile Institute, 1955, 46, T65) that cellulose fibres in mixtures with asbestos could be determined by ignition at 370°±10°C. when cellulosic material is completely burned, while chrysotile, the type of asbestos mainly used in textiles, suffers a loss of weight of about 2.5%; when ignited at 800°C, the temperature used in earlier methods of analysis, the asbestos loses about 14% of its weight.

It has now been observed that both chrysotile asbestos and glass fibres experience a small weight loss of about 0.5% when heated at 370°C. and when the loss is calculated on the weight of the residue after conditioning for 8 hours, in a standard atmosphere. With practical mixtures of cotton, asbestos, and glass fibres, this small loss is balanced by the residual ash from the cotton (1—1.5%). These properties, coupled with resorption by asbestos of most of the water lost on ignition at 370°C, afford a simple but reasonably accurate method of determining cotton and glass fibres in mixtures with asbestos.

The material is adequately sampled and at least two determinations, each using 5-10 g, are made. The sample is conditioned, preferably in a weighing bottle, for not less than 1 hour at 70°C and 65% r.h. and then weighed. The sample is then transferred to an open crucible and heated in an electric oven to 370°±10°C for 1 hour and, after cooling, conditioned at 70°F and 65% r.h. for 8 hours and reweighed. The loss in weight gives the cellulose content of the sample. This conditioned sample is then re-heated to 800°C for 1 hour, cooled, again conditioned for 1 hour, and weighed. The percentage loss in weight, based on the weight of the sample after heating to 370°C and subsequently conditioning, is calculated and the asbestos con-

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tent found by assuming a loss of 13% in weight by the asbestos component without concomitant loss in weight by the glass fibre component on heating to 800°C. The glass fibre content is found by difference.

Thus, if the percentage losses in weight for the two heatings to 370°C and 800°C, as defined above, are 20% and 6.5%, respectively, then the cotton content is 20% and the asbestos content is:

$$(100\text{-}20) \times \frac{6.5}{13} = 40\%$$

When oil or other extraneous substance is present in the sample to be tested, this should be removed by an appropriate extraction process before ignition and its amount determined in order to obtain the correct proportion of each component in the blend.

The presence of mineral carbonates and/or hydroxides in the asbestos will not affect the determination of cotton, but it may vitiate the accuracy of the determination of the glass component. However, the types of asbestos used as textile fibres are generally free from these impurities and the usual commercial blend contains two or more grades of fibres. The method is based on the following experimental findings, to which the procedure for conditioning, as described above, applies.

(a) Milled chrysotile asbestos (6 different commercial varieties) lost 12.86-13.44% of its weight on heating the pre-ignited sample (370°C for 1 hour; weight loss 0.50-0.67% to 800°C for 1 hr.

(b) Glass fibre (4 different commercial varieties) lost 0.20-0.58% of its weight on heating to 370°C, without further loss on subsequent heating to 800°C.

(c) Asbestos-glass fibre mixtures gave results shown in Table I.

(d) Cotton-asbestos-glass fibre mixtures gave results shown in Table II.

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Table I

Loss in Weight on Heating Asbestos-Glass Fibre Mixtures

Ratio of Asbestos to Glass Fibre by Wt.	No. of Asbestos Varieties Examined	Wt. Loss at 370°C (%)	Subsequent Wt. Loss at 800°C. (%)
30 : 70	4	0.20-0.44	4.01-4.07
50 : 50	7	0.20-0.50	5.79*: 6.38-6.70
70 : 30	4	0.40-0.60	8.68*; 9.04-9.44

* The one low value is due to a particular variety of Canadian asbestos.

Table II

Loss in Weight on Heating Cotton-Asbestos-Glass Fibre Mixtures

Ration of Cotton: Asbestos; Glass Fibre by Wt.	No. of Asbestos and Glass Fibre Varieties Examined	Percentage of Cotton Found	Percentage of Asbestos Found
10 : 45 : 45	4	10.12-10.56	43.4-47.1
20 : 40 : 40	7	20.0 -20.8	38.5-41.2

(Reprinted from the Journal of the Textile Institute, Vol. 47; No. 12; December 1956)

THE COVER

Asbestos Textiles

The photograph on our cover was supplied by the Southern Asbestos Company, Charlotte N. C.

From the mineral asbestos, hard and rocklike in structure, come the soft, silky fibres that are made into many forms of textile products.

The second annual "Showcase For Better Living" the International Home Building Exposition will be held May 4-12, 1957 at the New York Coliseum.

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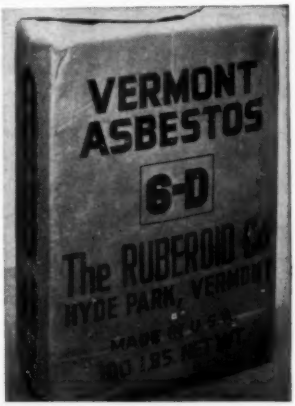

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THIS AND THAT

A group of 94 speakers will address the annual Spring meeting of the AMERICAN WELDING SOCIETY when it meets in Philadelphia, Pa., April 8-12, in conjunction with the annual Welding Show. The show, the largest ever held in the field and the first ever to take place in a major metropolitan center, will be held April 9-11 in Convention Hall. The conference will be held at the new Hotel Sheraton.

For the first time, the American Institute of Electrical Engineers will join the society in sponsorship of some of the sessions. The Institute's Committee on Electric Welding will be co-sponsor of two sessions on resistance welding and one on arc welding.

With about 250 companies expected to use over 100,000 square feet of exhibit space, the 7th NATIONAL MATERIALS HANDLING EXPOSITION, to be held in Convention Hall, Philadelphia, Pa., April 29th through May 3, is expected to exceed its predecessor by more than 15 per cent in size, according to Clapp & Poliak, Inc., the exposition management.

The show, the original one in its field, will emphasize systems of materials handling rather than any particular piece of equipment. Over 100 types of equipment will be demonstrated.

Theme for the 1957 show will be "Materials Handling, Key to Automation."

Symposium "International Science a Catalyst For World Security" will be held at the meeting of the ASSOCIATION OF CONSULTING CHEMISTS AND CHEMICAL ENGINEERS, INC., on April 24, 1957, 5:30 P.M., at the Belmont Plaza Hotel, New York City.

The guest speaker will be Prof. Johnson E. Fairchild, Director of Adult Education, Cooper Union, New York City; and the moderator will be Dr. Lincoln T. Work, consulting chemical engineer, New York City.

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The building industry this year will have to "spar with the auto industry" for every dollar of home improvement business, Wade W. Hildinger, vice president of National Gypsum Co. told the West Virginia Lumber and Builders' Supply Dealers' Association on February 22, 1957 at White Sulphur Springs, W. Va.

He warned delegates attending the convention they can't "sit back and let nearly 10 million potential customers take out another coupon book for another new car, TV set or expensive vacation when they should be investing in home improvement."

Relating "shocking statistics" about the nation's housing, the National Gypsum executive said half of the nation's homes are 30 years old or older. He estimated that about one house in six is too small, every third house needs a new built-in, one in two needs insulation and one in five needs a carport, garage or garage repair.

He estimated an additional $8-billion of annual potential in the home improvement market.

Mr. Hildinger urged dealers to tie in more closely with the 1957 Operation Home Improvement campaign and to emphasize more home improvement financing through the revised FHA Title I loan program.

Discussing four main topics—distribution, home improvement, future development and better merchandising—Mr. Hildinger urged dealers to: stock complete lines and expedite better goods handling by investing in mechanized equipment.

The 61st Annual Meeting of the National Fire Protection Association of Boston, Mass., will be held at the Hotel Statler, Los Angeles, California, May 20-24, 1957.

SMITH & KANZLER CO.

Manufacturers of

ASBESTOS PAPER

Pipe Covering & Blocks

Air Cell

Wool Felt

Anti Sweat

Anti Freeze

Sponge Felt

Multi Ply

Established 1920

East Linden Ave., Linden, N.J.

MARKET CONDITIONS

ASBESTOS — RAW MATERIAL.

Shipments of raw asbestos in January were pretty well in line with the same month in 1956. As usual it was one of the low months of the year, due to lack of export shipments during the close of navigation.

In line with other phases of industry it is felt that the year 1957 should equal or slightly improve over 1956.

All grades of fibre are in ample supply with relatively heavy inventories as is customary during the winter season.

ASBESTOS — MANUFACTURED GOODS.

Asbestos Textiles. Substantial improvement has been noticed within the past sixty days. Equipment accounts are making commitments for longer terms and shipments generally have increased. According to the present outlook textile business should be somewhat better than has been experienced during the past few years.

Asbestos Brake Lining. The brake lining market is excellent — running ahead of last year which was a record year. There is an upswing in the replacement market but a slow down in O.E.M. market.

Asbestos Paper. The demand for this material is good, being very close to productive capacity. Shipments are ahead in comparison with the same period last year, and are expected to show considerable improvement over 1956. *Millboard* demand continues at about the same rate as for the past several months and is not expected to improve for several more months. The present market for *Saturated Paper* is very good for this season of the year. Sales still below production capacity expect slight downward trend during early spring.

Insulation. High Pressure. The prospects for the start of the new year are excellent. The demand has increased and is expected to reach peak production.

Insulation. Low Pressure. The market shows little change from last month with competition remaining keen for available business.

DRYCOR FELT CO.

STAFFORDVILLE
CONNECTICUT
U. S. A.

Pioneers
and
World's Largest
Manufacturer
of
NEEDLED FELTS
for
ASBESTOS CEMENT PRODUCTS

•

ESTABLISHED STANDARD
for
ECONOMY
DRAINAGE
LONGER LIFE

•

Synthetic Fibre Content Available to Meet Your Individual Requirement

Asbestos Cement Products. The market remains very slow but an increase is expected during the next two months.

Order placements for *roofing and siding* during February were considered normal and seasonal.

The outlook for *corrugated and flat* asbestos sheets is very favorable. The market is strong on the West Coast and Central U. S. but is somewhat weaker on the East Coast.

At present production far exceeds demand but it is believed the tight money situation combined with fewer houses being built has slowed sales of all *asbestos-cement pipes* beyond the normal seasonal fall-off.

The above comments have been made by various informed executives in the Industry. All comments are welcome.

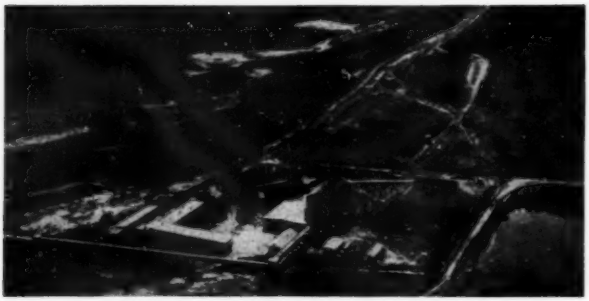
"How to Build Garden Shelters and Tool Houses," is a new 24-page booklet published by Johns-Manville. It is profusely illustrated and gives the homeowner basic information for doing his own work.

Step-by-step operations described in the booklet include: advantages of building a garden house, how to finance the job, local building codes, excavation and footings, foundations and floors, framing and shingling, Weathertite Sheathing, asbestos Flexboard exterior walls, lining the garden house, and, bill of materials needed.

To secure copies of "How to Build Garden Shelters and Tool Houses," send 25c to Johns-Manville, 22 E. 40th Street, New York 16, N. Y.

WILHELM BURGDORF
Importer of **Raw Asbestos**
P. O. Box 1131, BREMEN, GERMANY

FLINTKOTE MINES LIMITED



View of site at Thetford Mines, Quebec

Modern, self-propelled drilling equipment

Electric shovel and huge diesel truck at the Flintkote Thetford Mine

Flintkote... a major asbestos producer ... now offers asbestos fibres for sale. Inquiries should be addressed to

Flintkote Mines Limited
(subsidiary of The Flintkote Company)
Thetford Mines, Quebec, Canada

POLYESTER GLASSFIBER REINFORCED SHEETS

A new process for the production of the above sheets has been developed by H. G. Moller of Ahlmoplast-Kunststoff-Verarbeitung G.m.b.H., Delmenhorst, Germany. Licenses for the utilization of their method have been sold to a number of countries outside Germany. The demand for these sheets which are widely used in connection with asbestos-cement materials for skylights and window walls is rapidly growing in Europe.

The first factory to use this process outside Germany will be Norsk Eternit Fabrikk of Oslo, Norway. Further licensing arrangements have been made with asbestos-cement manufacturers in England, Sweden, Denmark, Belgium and France.

ASBESTOS-CEMENT MACHINERY

Wet machines with Auxiliaries for the production of 24" to 48" wide, flat or corrugated sheets in commercial lengths.

Fiberizing Equipment, Rotary Cutters, Wet and Dry Trimmers, Finishing and Texturing Machines.

Your inquiries are most welcome

LINCOLN IRON WORKS

(Successors to Asbestos-Cement Associates, Inc.)

255 West Street Rutland, Vermont

ASBESTOS FIBRES

ASBESTOS WASTE

Frank G. Ruggles Co. Inc.

50 CHURCH STREET

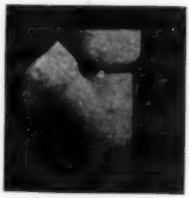
NEW YORK 7, NEW YORK

Now . . .
starting from the usual
WET ASBESTOS-CEMENT SHEET

A NEWLY-DEVELOPED LINE OF MACHINERY

(Patents Marchioli & Gremigni)

for manufacturing



FITTINGS

OF EVERY SHAPE AND DIMENSION

—TOUGH
—RESILIENT
—COMPACT
—WATERPROOF

PLANTS ALREADY IN OPERATION IN OUTSTANDING FACTORIES

Inquiries for Details, Quotations and References are welcome.

ING. G. MARCHIOLI
22 Morgagni, Milan, Italy
Cable: MINITA—MILANO **Phone: 26 67 27**

RE-ROOF "FOR LAST TIME" WITH PERMANENT ASBESTOS SHINGLES

How long should a roof last? Roofing experts say the answer to that question depends on the climate and the type of roof covering used. In selecting a roofing material, therefore, the purchaser should consider the anticipated life of the building to be covered and local climatic conditions.

Exposure to salt laden air can have a damaging affect on many types of roofing. Similarly, intense and prolonged heat can shorten the life of some materials.

For the home or other building with a long life expectancy, it generally is most economical in the long run to use a "permanent" type of roofing, such as asbestos-cement shingles. Asbestos shingles are immune to damage from all ordinary causes of weathering. They cannot burn and their weight and rigidity give them exceptional stability, even in high winds. An asbestos roof, therefore, probably will never need replacement, even if the building reaches a ripe old age.

Asbestos roofing shingles have been in use for more than 50 years. Roofers say they have never seen one wear out. In fact, asbestos roofing from razed old buildings has been found suitable for re-installation on new structures.

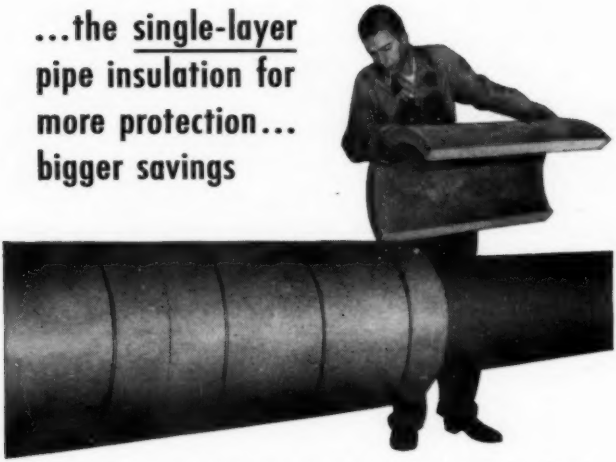
The fact that asbestos shingles cannot burn is a valuable protection, since roof fires are among the leading sources of residential and other fire losses.

Asbestos roofing shingles are now made in a range of types and styles suitable for homes in all price brackets. Pleasing modern colors have enhanced their beauty.

Rigidity is one of the identifying marks of asbestos-cement shingles. They are, in fact, a form of reinforced concrete. Fibres of the mineral asbestos act as the reinforcing agents.

UNIBESTOS®

...the single-layer pipe insulation for more protection... bigger savings



Unibestos protects pipelines up to 1200° F. Single-layer construction cuts application costs...seals in more heat at the joints than double-layer insulations. Available in sectional form through 44" O.D.

UNARCO...for the best in asbestos insulation

TEXTILES

Cloth (plain and metallic)
Woven Tapes
Gasket Cloth
Sheet Packings
Front End Tape

FLEXIBLES

Insutube—slip-on
Insutape—wrap-on
Insubestos Felt
Wovenstone®—lace-on
Specialty Insulation

PACKING

High Pressure Rod Packing
Blue Asbestos Packing—acid resistant
Square Braided Packing
Valve Stem Packings—twisted and braided
Joint Runners
High Pressure Packing—semimetallic

UNARCO®

Write for new 40-page catalog

UNION ASBESTOS & RUBBER COMPANY

1111 West Perry Street • Bloomington, Illinois

A new line of asbestos fibre gasketing materials made by the Industrial Division of the Armstrong Cork Company of Lancaster, Pa., has unusual flexibility characteristics. A 1/32-inch sheet of the new "Accopac" asbestos fibre compound will withstand sharp bending around a pencil without piping or cracking. Manufactured by a patented "beater-saturation" process, the new gasket compositions are available in several types of rubber binders, can be supplied as roll goods, sheets, or die-cut parts.

To enjoy the lowest net cost of Asbestos Fibre, obtain highest price for your empty burlap asbestos bags by selling them to
ACE BAG & BURLAP CO. INC.
2640 Park Avenue New York 51, N. Y.

"Tropag"
"ASBEST- & ERZIMPORT OSCAR H. RITTER K. G.
Hamburg · — · Ballindamm 6
Importers since 1909 of
ASBESTOS - ORES - MINERALS

Complete Plants for making
ASBESTOS CEMENT PIPES
Socketed and Non-socketed
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Plants designed, equipped and financed.
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THE COLONIAL SUGAR REFINING CO. LTD.

SYDNEY, AUSTRALIA

Sole Distributors for

AUSTRALIAN BLUE ASBESTOS LIMITED

MINES AT WITTENOOM, W.A.

SOLE SELLING AGENTS

- **Minerals Fibres Ltd.,**
  Market Buildings
  Mark Lane, London
  Argentine, Belgium, Brazil, Chile, China, Colombia, Denmark, France, Egypt, Formosa, Great Britain, Holland, India, Israel, Italy, Mexico, Norway, Pakistan, Peru, Philippines, Portugal, Spain, Sweden, Switzerland, Thailand, Turkey, Uruguay, Venezuela.
- **Carters (Merchants) Ltd.,**
  Winchester House
  Old Broad St., London
  Austria, Czechoslovakia, Germany, Hungary, Japan, Poland, U.S.S.R., Yugoslavia.

Australian Blue is an ideal fibre for asbestos cement and for purposes requiring good heat insulation and acid resistance. It has excellent spinning properties. Samples are available on request.

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CRUDES and FIBERIZED ASBESTOS

Distributors for the Portuguese mines of

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HERMAN HOLLANDER, INC.

154 Nassau Street

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RHODESIAN CHRYSOTILE ASBESTOS

regular supplies of long Spinning Grades, Filter Grades, shorter Grades (comparable 3T and 3Z)

***Affiliate:* A. J. Hollander (Rhod) (Pvt), Ltd.**

Bulawayo, Rhodesia.

CANADA

(Department of Mines, Province of Quebec)

Tons 2,000 lbs.

Production for December 1956 (Quebec)	57,503
Other Provinces	3,261
	60,761

Total production for December 1955 was 81,828 tons.

By Grades:	Year 1955	Year 1956
Crude	572	645
Fibres	353,510	359,529
Shorts	667,983	620,521
	1,022,065	970,695

AFRICA (Rhodesia)

(Published by Rhodesian Chamber of Mines)

Tons 2000 lbs.

Production for October 1956	9,964.65 tons
Valued at	£695.476
Production for October 1955	8,740.96 tons
Valued at	£591,232

G. W. MARSHALL, JR. RESIGNS

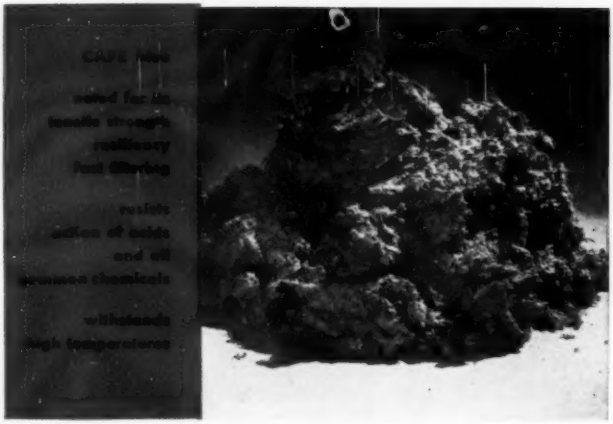
G. W. Marshall, Jr. has resigned his position as vice president and director of Raybestos-Manhattan, Inc.

TEST

. . . the added sales volume awaiting you among the nation's roofing and siding contractors. Write to . . .

AMERICAN ROOFER and SIDING CONTRACTOR

425 Fourth Avenue, New York City



direct from our own South African mines—

BLUE asbestos fiber

Select the strongest of all fibers, from the world's largest producers of Blue (crocidolite) asbestos. Know about its use in molded plastics; as a base for rubber and synthetic impregnants; as reinforcement for bituminous products; as a reinforcement for cements, mortars, refractories. Write for Bulletin 201.

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Board of Trade Building • Chicago 4, Illinois

In Canada

CAPE ASBESTOS (Canada) Limited

200 Bloor Street East • Toronto, Ontario • Canada

Subsidiaries of The Cape Asbestos Company Ltd. • London

Imports Into U. S. A.

(Figures by Bureau of Census)

Unmanufactured Asbestos:

	November 1956 Tons (2240 lbs.)
From: Canada	41,648
Union of S. Africa	1,974
Australia	179
Rhodesia (Ny)	317
Other Countries	37
	44,155
Valued at	$4,312,873

By Grades:

Crude No. 1, Chrysotile, Canada	9
Crude No. 2, Chrysotile, Canada	24
Crude, Other, Chrysotile, Rhodesia (Ny)	317
Crude, Other, Chrysotile, Other Countries	6
Crude, Blue, Australia	179
Crude, Blue, U. of S. Africa	1,290
Crude, Amosite, U. of S. Africa	684
Textile Fibres, Chrysotile, Canada	1,410
Textile Fibres, Chrysotile, Other Countries	31
Shingle Fibres, Chrysotile, Canada	4,918
Paper Fibres, Chrysotile, Canada	4,233
Other Fibres, Chrysotile, Canada	31,054
	44.155

Manufactured Asbestos Goods:

	November 1956 Quantity (lbs.)	Value
Asbestos Yarn, United Kingdom	62,895	$60,054
Asbestos Yarn, Other Countries	8,519	12,242
Asbestos Packing & Lining	975	865
Asbestos Shingles (Impreg.)		
Canada	1,001,084	97,735
Asbestos Shingles (Not Impreg.)		
Canada	3,018,936	284,916
Belgium	564,625	22,432
W. Germany	191,800	10,229

BELL ASBESTOS MINES LTD.

THETFORD MINES, QUE.

CANADA

Producers of

Raw Asbestos Crudes

& Fibres

Sales Representatives

for

Cassiar Asbestos Corporation Limited

Italy	449,202	22,228
Other Countries	127,561	5,210
Asbestos Manufactures—Others	.....	1,979
	5,425,597	517,890

Exports From U. S. A.

(Figures by Bureau of Census)

Unmanufactured Asbestos:

	November 1956	
	Tons (2240 lbs.)	Value
To: Europe	140	$ 15,733
South America	7	660
Other Countries	116	16,168
	263	$ 32,561

Manufactured Asbestos Goods:

		November 1956	
Asbestos Cement & Pipe Covg.	Lbs.	178,295	$ 37,694
Asbestos Textiles & Yarns	Lbs.	40,018	48,065
Asbestos Packings	Lbs.	95,592	119,257
Asbestos Clutch Facings	No.	93,596	76,487
Asb. Bk. Lng. (Mld. & S. Mld.)	Lin. Ft.	78.564	27,108
Asb. Bk. Lining, Rolls	Lin. Ft.	5,823	17,101
Asb. Bk. Lining, Other	Lbs.	399,245	340,940
Asbestos Construction Materials	Lbs.	1,518,850	212,183
Asbestos Manufactures—Others			47,223
			$926,058

Imports of Asbestos by United Kingdom

Raw Matrial

	Tons (2240 lbs.)	
	Oct. 1956	Nov. 1956
From: Union of South Africa	1,409	2,157
Basutoland, Bechuanaland & Swaziland	804	710
Rhodesia & Nyasaland	3,712	5.609
Canada	6,383	5,453
Other Countries	1,268	206
	13,576	14,135

CAPE BLUE ASBESTOS

Direct from the Mines or from stocks in London

•

TRANSVAAL BLUE • AMOSITE
CHRYSOTILE • ANTHOPHYLLITE

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Processing of all grades of Asbestos carried out in our London Works.

CENTRAL ASBESTOS Co., LTD.

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'Phone BERMONDSEY 3864 Cables CENBESTOS LONDON
CENTRAL ASBESTOS (S. A.) PTY LTD. P.O. BOX 3570 JOHANNESBURG

Exports from Canada

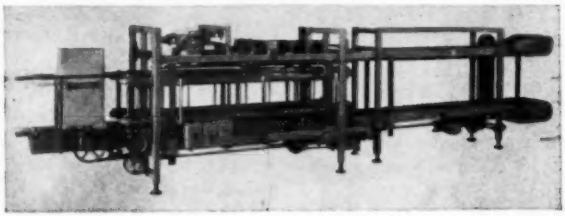
(Published by Dominion Bureau of Statistics)

Unmanufactured Asbestos:

	November 1956	
	Tons (2000 lbs.)	Value
Crude		
United States	18	$ 19,065
United Kingdom	40	69,342
South America	....	.....
Central America & Mexico	....	.....
European Countries	8	7,426
Other Countries	10	7,544
	76	$ 103,377
Milled		
United States	11,943	$2,088,886
United Kingdom	2,924	593,790
South America	3,356	571,842
Central America & Mexico	1,434	238,804
European Countries	9,651	2,097,384
Other Countries	7,797	1,211,047
	37,105	$6,531,753
Shorts		
United States	32,683	$1,601,820
United Kingdom	2,965	135,466
South America	903	66,412
Central America & Mexico	385	26,771
European Countries	4,534	267,897
Other Countries	3,357	264,135
	44,827	$2,362,501
Grand Total — Unmanufactured Asbestos	82,008	$8,997,631
Manufactured Asbestos Goods:		
Brake Lining		$ 87,328
Packing		.....
Other Materials		392,397
		$ 479,725

PACKOMATIC *Shows the way to increased efficiency in your BALE SEALING operation.*

- **ADJUSTABLE—to the accepted range of ASBESTOS Bale Sizes.**
- **AUTOMATIC—can be furnished with or without tucking device.**
- **NEW—engineered with the most advanced electrical and mechanical features available.**
- **STURDY—built for efficient-trouble-free performance to give long years of continuous service—finest workmanship and materials.**
- **CUSTOM—DEVELOPED OUT OF THE EXPERIENCE IN THE ASBESTOS INDUSTRY.**



USERS:

Canadian Johns-Manville Corp.
The Ruberoid Company
Flintkote Mines, Ltd.

We are represented in the principal cities of the United States, Canada and Overseas Export Offices in New York City.

Your direct inquiry will receive prompt attention.

PACKOMATIC

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PACKAGING MACHINERY

J L FERGUSON CO JOLIET ILL

Chicago, New York, Boston, Philadelphia, Tampa, Cleveland, Denver, San Francisco, Los Angeles, Baltimore, Seattle, Portland, Dallas, New Orleans

NEWS OF THE INDUSTRY

HAPPY BIRTHDAY

John H. Balch, Executive Vice-President, Union Asbestos & Rubber Co., Chicago, Ill., March 22.

Grady B. Gulledge, Director & General Manager, Apache Asbestos Mines, Inc., Owner & Manager, Pine Top Asbestos Mines, Globe, Arizona, March 23.

George Barge, Treasurer, Keasbey & Mattison Company, Ambler, Pa., March 27.

A. R. Fisher, President, Johns-Manville Corporation, New York City, March 27.

J. T. Griffis, Vice President, Southern Asbestos Company, Charlotte, N. C., March 28.

J. A. O'Brien, Vice President, Johns-Manville Corporation, New York City, March 28.

Lord Elton, Director, The Cape Asbestos Company, London, England, March 29.

F. V. S. Smith, Director & Secretary, Hodgson & Hodgson, Ltd., Carrington, England, March 29.

W. C. Bowman, District Manager, The Philip Carey Mfg. Company, Philadelphia, Pa., March 30.

G. M. Williams, President, Russell Mfg. Company, Middletown, Conn., April 6.

Herbert D. Harris, Asbestos Corporation of America, New York City, April 12.

J. M. Weaver, formerly of Raybestos-Manhattan, Inc., Manheim, Pa. April 14.

To all these gentlemen we extend congratulations and best wishes on the occasion of their birthdays.

THE FLINTKOTE CO.

Joseph A. Thomas, a partner of Lehman Brothers, has been elected Chairman of the Finance Committee of The Flintkote Company, succeeding the late John M. Hancock.

Mr. Thomas has been a Director of The Flintkote Company since 1936, except for a period during World War II.

Harry F. Vickers, President and Director of the Sperry Rand Corporation, has been elected a Director of The Flintkote Company, national manufacturers of building materials, paper board and industrial products.

Mr. Vickers, who recently received the A.S.M.E. medal for "distinguished service in engineering and science", is the Chief Executive Officer of Sperry Rand and has been granted 95 patents covering hydraulic and other devices.

C.J. PETROW & CO. (PTY) LTD.

ASBESTOS

VOLKSKAS BUILDING 76 MARKET STREET
JOHANNESBURG, SOUTH AFRICA

SOUTH AFRICAN
RHODESIAN

ASBESTOS FIBRES

All Grades - All Types

P. O. Box 11000 **Cable: SOTSEBSA**

ASBESTOS TEXTILES

US RUBBER

are manufactured in our own modern plant at Stark Mills, Hogansville, Ga. Spinning and weaving operations are closely controlled for maximum uniformity in asbestos yarns, fabrics and tapes. Specialties developed to meet customers' requirements.

Write: Asbeston® Dept., Textile Division
UNITED STATES RUBBER COMPANY
1230 Avenue of the Americas, New York 20, N.Y.

NICOLET INDUSTRIES, INC.
Changes in Personnel

The appointment, effective February 1, 1957, of *Ladd L. Wilson* as vice president sales and *Alden A. Lofquist* as vice president manufacturing has been announced by Guy George Gabrielson, Jr., president of Nicolet Industries, Inc. Mr. Wilson will be responsible for directing the sale of asbestos paper and asbestos paper products produced at the Norristown, Penna. and Hamilton, Ohio plants of the company and will be responsible, as well, for the sale of the company's pipe line wrap materials. He will be responsible also for the marketing of any proprietary metal product which hereafter may be produced at the Lansdale, Penna. plant.

Mr. Lofquist will be responsible for all manufacturing activities at the three United States plants and will have reporting to him as divisional vice president, *Harold W. Donnelly* at the Norristown plant, *Richard D. Deininger* at the Hamilton plant and *Wayne Baylie* at the Lansdale plant, Mr. Wilson and Mr. Lofquist both will be located at the executive offices of the company at 70 Pine Street, New York City.

Nicolet Industries, Inc. recently has signed a contract for the purchase of eight acres of land in the Borough of Florham Park, New Jersey, and that plans are being prepared for the erection of an executive office and product development laboratory. Pending completion of the Florham Park structure, the executive offices will remain in New York City and the company's Product Development Center will remain at the Lansdale, Penna. plant.

THE FLINTKOTE COMPANY
Annual Report

Net income of The Flintkote Company and subsidiaries for 1956 totaled $5,801,974, equal after preferred dividend requirements to $3.97 per share on 1,386,192 average common shares outstanding in 1956, compared with $4,945,694 or $3.57 on 1,300,685 average shares outstanding in 1955.

Net sales rose to a new record high last year, totaling $107,085,509 compared with $100,995,922 in 1955. Net investment in plant and property during 1956 increased to $45,400,000 as compared to $35,600,000 reflected in 1955.

For the first time. Flintkote presented in chart form — a break-down of its sales dollar. Building materials now account for 57 per cent with roofing, siding, insulation and chimney products combining in the following breakdown: Private residential 33 cents; schools, hospitals, 6 cents; industrial 5 cents; farm 4 cents; and government 4 cents.

Other products, accounting for 43 per cent, including paperboard, floor and wall coverings, adhesives and coatings, paving materials, and lime products. These break-down into 26 a consumer and 17 cents for industrial, etc.

CABLE ADDRESS METABEST

METATE ASBESTOS CORPORATION

Producers of

ARIZONA CHRYSOTILE CRUDES

and

FILTERATION FIBRE

Mines & Mill:
SAN CARLOS
INDIAN RESERVATION
GILA COUNTY, ARIZONA

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GLOBE, ARIZONA

INDUSTRIAL SERVICE COMPANY

Builders of

ASBESTOS CEMENT MACHINERY

Our experienced engineers and machinists offer the industry entire machines built to deliver maximum production.

Your Inquiries Are Invited

1-51 Paterson Avenue E. Rutherford, N. J.

ASPHALT TILE INSTITUTE

Election of Officers

W. Leon Harper was elected president of the Asphalt Tile Institute at the Annual Meeting of the organization held at The Warwick, New York City. Mr. Harper is Manager of Flintkote Industrial Sales and General Sales Manager of The Tile-Tex Division of the Flintkote Company.

J. P. Stiger, Commodity Manager Flooring Materials of the Johns-Manville Corporation was elected vice president; and *J. O. Heppes*, Vice President and General Manager of the Azrock Products Division of Uvalde Rock Asphalt Company, was elected secretary-trasurer.

The directors elected, in addition to Mr. Harper, Mr. Stiger and *Mr. Heppes* were *C. A. Neumann*, Vice President—Sales of Kentile, Inc., and *Carl Resnikoff*, Vice President in Charge of Marketing of the Mastic Tile Corporation of America.

CONSOLIDATED COPPERMINES CORPORATION

Appoints Two Vice Presidents

Consolidated Coppermines Corporation, an integrated company of copper mining and fabricating units announced the appointment of two new vice presidents: *W. W. Sieg*, President of Titan Metal Mfg. Company, and *Albert S. Redway*, President of Rockbestos Products Corporation.

Mr. Sieg was elected President of Titan Metal Manufacturing Company of Bellefonte, Penna. in 1948. Controlling interest in Titan was acquired by Consolidated Coppermines in 1945, and the Pennsylvania Company is now engaged in a 5 million dollar expansion and improvement program which includes the construction of a new brass mill at Newark, Calif.

Mr. Redway has been President of Rockbestos since 1955, joining the New Haven, Connecticut, electrical wire and cable manufacturing company shortly after controlling interest had been acquired by Consolidated Coppermines.

PHILLIPS ASBESTOS MINES

Producers of

CRUDES

and

FIBERIZED ASBESTOS

The World's Finest Fibres

DRAWER 71 GLOBE, ARIZONA

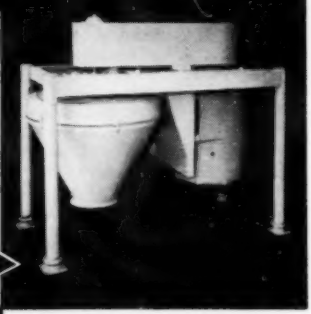
Mines and Mills in Gila Co., Arizona

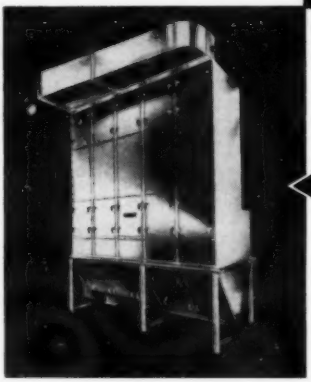
FOR THE ASBESTOS PROCESSING INDUSTRY...

"ENTOLETER" IMPACT MILL...

the modern, high efficiency equipment for asbestos guarantees fiberizing various grades without fiber-degradation.

- extremely low maintenance costs
- highest capacity per hp. available in fiberizing equipment





"ENTOLETER" SIMON SUCTION FILTER DUST COLLECTOR...

for the most efficient dust recovery.

- low cost per square foot of filter area
- uniform air flow
- high air to cloth ratios
- long filter cloth life
- low power requirements
- all aluminum construction

For further information concerning "ENTOLETER" equipment contact:

LYNN MACLEOD ENGINEERING SUPPLIES, LTD.
THETFORD MINES, QUEBEC, CANADA

ENTOLETER DIVISION
The Safety Car Heating and Lighting Company, Inc.
1199 Dixwell Ave., New Haven 4, Connecticut

UNITED STATES RUBBER CO.
Changes in Sales Organization

Three executive changes in the sales organization of the Textile Division of United States Rubber Co. were announced recently.

V. C. McQuiddy, Jr. has been appointed to the new post of sales manager of textile products, reporting to Mr. Johnson, general sales manager. Mr. McQuiddy has held various important sales positions with the company since joining it in 1941 including assistant sales manager, branch manager and his previous assignment of yarn sales manager. Reporting to him in his new position will be the sales managers of the following departments—yarn, Asbeston, Trilok and industrial yarns and fabrics.

John H. Shaw succeeds Mr. McQuiddy as yarn sales manager. Mr. Shaw, who previous to his new post was supervisor of new product development and technical service, will be assisted by *Joseph B. Jackson*, sales manager of tufting, chenille and floor covering yarns, and *Samuel K. George, III*, sales manager of knitting, weaving and special yarns.

Judson J. Milam, Jr., has been appointed manager of Trilok, the new patented three-dimensional upholstery fabric. Mr. Milam joined U.S. Rubber in production sales coordination in 1940. He has held a number of administrative and sales assignments in the textile division. Reporting to Mr. Milam in his new post will be James G. Ford, sales manager in the furniture and decorating fields and Ben E. Ferguson, sales manager in transportation and the automotive fields.

J. L. FERGUSON CO.

J. L. Ferguson Company, Joliet, Illinois, announces another "first" — a completely automatic case-imprinter which imprints name and contents on all four sides—and, in addition imprints a product serial number.

The new case imprinter answers a need created by recent developments in automatic palletizing methods making it essential that corrugated shipping containers show name and contents on all sides for ready warehouse identification. The machine imprints on two panels and two ends without manual positioning.

Flexibility of the machine makes it adaptable and practical for all industries using corrugated shipping cases regardless of the contents of the case.

Compact, the imprinter prints from one to eight lines within a printing range eleven inches high. Type may be graduated from ¼" to 1½" high.

The serial numbering device prints to 6 digits in figures up to 1½" high.

For additional data, write the J. L. Ferguson Co., Joliet, Illinois, manufacturers of customized packaging equipment.

Antony Gibbs & Co., Inc.

61 Broadway

New York 6, New York

Tel. Digby 4-6580

Sole Distributors in North America of

ASBESTOS FIBRES

Offered by

S. A. ASBESTOS TRADING (PTY.) LTD.

Johannesburg

From the Mines of:

RHODESIAN CHRYSOTILE

Vanguard Asbestos Mines

Boss Asbestos Mines

Grades: Spinning, 3Z, 4H, 5R, 6D, 7M

UNION CHRYSOTILE

CAPE BLUE

Kuruman Cape Blue Asbestos

Grades: 1, 2, 3

TRANSVAAL BLUE

Baboon Asbestos Co.

Grades: TD1, TD2, TD3, TD4

LAKE ASBESTOS OF QUEBEC, LTD.

A new asbestos fibre mill is now under construction at Black Lake, Que., by Lake Asbestos of Quebec, Ltd., a subsidiary of American Smelting and Refining Company. Before work is completed ASRCO will have spent over $32,000,000 in the development of this property.

Initial benching work is now underway to reach the rich asbestos ore deposits which are being uncovered by the dregging and draining of Black Lake. When in full production, the Lake Asbestos operation will produce over 100,000 tons of high grade chrysotile asbestos fibre annually. Proved reserves can support this production rate for more than 40 years.

Steel work on the $9,000,000 mill and auxiliary structures has already commenced. Ore from the open pit will be transported by truck from the drained lake to the primary crusher, and then carried by conveyors to the wet rock storage pile and the dryers. From there, it will be conveyed to dry rock storage and by underground conveyor to the 14-story mill. Tailings are conveyed to the tailings pile by overhead conveyor. An electric sub-station, shop and garages, company offices, and a change house will also be located on the property. Canada's King's Highway, which was re-located by ASARCO to make room for the mining and milling development, now runs directly in back of the property.

ARIZONA ASBESTOS

Mined and Milled by

JAQUAYS MINING CORPORATION

1219 S. 19th Avenue

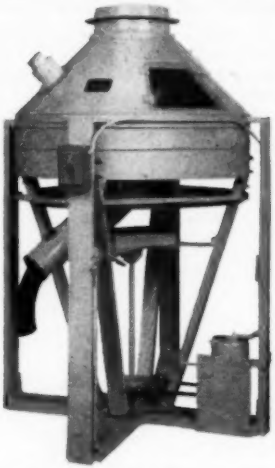
PHOENIX, ARIZONA

Producers of Low Iron Chrysotile Crudes and Filter Fibre

MINES AND MILL IN GILA COUNTY

150

used in Asbestos Industry



Bauer

Specific Gravity Separators

Asbestos processing plants are using 150 Bauer Specific Gravity Separators for cleaning fiber. The machines are available in two sizes with 1 to 5 T/hr. capacity.

They require less air than other types of cleaners. They handle Nos. 4 to 8 fibers.

The separators remove small grit, rock particles, blasting wire, wood particles, and many other kinds of debris. Ask for particulars.

THE BAUER BROS. CO.

1826 Sheridan Ave. • Springfield, Ohio

Canadian Agents: — Lynn Macleod Engineering Supplies, Ltd., Thedford Mines, Quebec.

Export Agents: — M. Neumunz & Son, Inc., 90 West St., New York 6, N.Y.

BRAKE SHOE SALES AND EARNINGS SET NEW HIGH

American Brake Shoe Company's 1956 earnings after provisions for income taxes were approximately 39 per cent above those of 1955 and set a new all time high, according to figures recently released.

The figures showed net earnings of $8,963,000, compared with $6,442,000 reported last year. This is equal to $6.64 per share of common stock, compared with $5.08 a year ago.

Shipments for 1956 totaled $186,142,000,, an increase of 27 per cent over the $147,096,000 reported for the previous year. Despite these heavy shipments, the company ended the year with a record backlog of $55,400,000, compared with $42,600,000 at the close of 1955.

CURRENT RANGE OF PRICE

As of March 10, 1957

Arizona—	Per Ton of 2,000 lbs., f.o.b. Globe, Arizona		
No. 1 Crude (soft)	$1.500.00	to	$1,750.00
No. 2 Crude (soft)	900.00	to	1,050.00
No. 3 Crude (soft)	400.00	to	450.00
Filter Fibre (soft)	250.00	to	450.00
No. 1 Crude (semi-soft)	1,200.00	to	1,500.00
No. 2 Crude (semi-soft)	900.00		
No. 3 Crude (semi soft)	400.00		

Canada—	Per Ton 2000 lbs. f.o.b. Mine		
Group No. 1 (Crude No. 1)	$1,400.00	to	$1,725.00
Group No. 2 Crude No. 2; Crude Run-of-Mine and Sundry	750.00	to	1,100.00
Group No. 3 (Spining Fibre)	350.00	to	575.00
Group No. 4 (Shingle Fibre)	170.00	to	225.00
Group No. 6 (Waste, Stucco or Plaster)			82.00
Group No. 7 (Refuse or Shorts)	38.00	to	75.00

Vermont— Per Ton of 2000 lbs. f.o.b. Hyde Park or Morrisville, Vt.			
Group No. 3 (Spinning & Filtering)	$ 353.00	to	$ 383.00
Group No. 4 (Shingle Fibre)	172.00	to	190.00
Group No. 5 (Paper Fibre)	114.00	to	145.00
Group No. 6 (Waste, Stucco or Plaster)			82.00
Group No. 7 (Refuse or Shorts)	39.00	to	72.00

International Asbestos Cement Review
An architectural quarterly devoted to the promotion of asbestos-cement, published in English, French and German editions
Circulation exceeding 44000
Editions Girsberger, 40 Kirchgasse, Zurich, Switzerland
(U. S. agents: Wittenborn & Co. 38 East 57th Street, New York 22)

CUSTOM Treaters of ASBESTOS

We manufacture treated asbestos cloth with Bakelite or we will use your own formula.

PITTSBURGH WATERPROOF COMPANY

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» ATLANTA «

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ACE ASBESTOS MANUFACTURING CO.

Importers, Exporters, Processors of All Varieties of

RAW ASBESTOS

for Every Use

451 COMMUNIPAW AVE. JERSEY CITY, N. J.

ASBESTOS CHAPTER
Preprint from 1954 Minerals Yearbook

The 1954 Chapter on Asbestos from the U. S. Minerals Yearbook, published annually by the U. S. Bureau of Mines, has just arrived. All "ASBESTOS" readers who have collected an Asbestos Library, will want a copy. Send 10c (in coin) to the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.

It contains salient statistics of the Asbestos Industry in the United States, including a table of World production of Asbestos, (by countries) 1950 to 1954 inclusive.

Other information on the Asbestos Industry in 1954 which the pamphlet contains will, no doubt, be of interest to our readers.

ASBESTOS STOCK QUOTATIONS

(These figures are compiled from the Commercial & Financial Chronicle. No guarantee as to their correctness.)

		February 1957		
	Par	Low	High	Last
Amer. Br. Shoe (Com.)	np	41⅝	43¾	43⅛
Amer. Br. Shoe (Pfd.)	100	104¾	108	106⅞
Armst. Ck. (Com.)	1	25⅛	27⅞	26⅛
Armst. Ck. (Pfd.)	np	89½	92	92
Asbestos Corp. (Com.)	np	29½	31	30¾
Carey (Com.)	10	22	23⅝	23⅜
Cassiar Asb. Corp.	np	$7.40	$7.90	$7.50
Celotex (Com.)	1	31½	36¼	32⅝
Celotex (Pfd.)	20	18¼	18⅞	18⅞
Certainteed (Com.)	1	10⅛	11	10⅝
Fibreboard Paper Prod. (Com.)	np	27½	29⅞	28⅝
Fibreboard Paper Prod. (Pfd.)	100	98	102½	102½
Flintkote (Com.)	5	34¼	37	36½
Flintkote (Pfd.)	np	91¼	94	94
Johns-Manville (Com.)	5	43¼	48⅜	46½
Natl. Gypsum (Com.)	1	36½	38⅜	37⅜
Natl. Gypsum (Pfd.)	np	95	96½	95
Ray-Man (Com.)	1	48¼	53½	53½
Ruberoid (Com.)	1	28⅛	30⅜	28½
Thermoid (Com.)	1	11⅝	13¾	13⅜
Thermoid (Pfd.)	50	44¼	46½	46½
Union Asb. & Rub. (Com.)	5	6¾	7½	7¼
United Asb. (Com.)	1	$5.65	$6.05	$5.80
U. S. Gypsum (Com.)	4	51¾	56	53½
U. S. Gypsum (Pfd.)	100	159½	160½	160½
U. S. Rubber (Com.)	5	40	43⅝	40⅜
U. S. Rubber (Pfd.)	100	149½	154¾	151

TURNER & NEWALL LTD

RAW ASBESTOS DEPARTMENT

FOR CANADIAN, RHODESIAN
AND SOUTH AFRICAN ASBESTOS

ASBESTOS HOUSE • 77-79 FOUNTAIN ST. • MANCHESTER 2
ENGLAND

UNITED STATES RUBBER CO.

Harry R. Stout has been appointed manager of the credit and collections department of United States Rubber Co.

Mr. Stout, formerly assistant manager of the department, replaces *Fred A. Schwarz* who has retired. Mr. Schwarz joined the company as a clerk in its tire division in 1911, became assistant manager of the credit and collections department in 1939, and in 1949 was named department manager.

Mr. Stout has been with U. S. Rubber since 1927, his first post being assistant credit manager in its Indianapolis branch office. He was transferred to the tire division in 1940 and was made manager of sales analysis, then assistant manager of sales production coordination.

In 1947 he was named assistant manager of the credit department in the Chicago branch office, and in 1951 was named district credit Manager for the Los Angeles region. Last year he was transferred to New York as assistant manager of the credit and collections department.

JOHNS-MANVILLE CORPORATION

Elects Vice President

Reginald L. Johnson of Riverdale, New York, has recently been elected Vice President of Johns-Manville Sales Corporation.

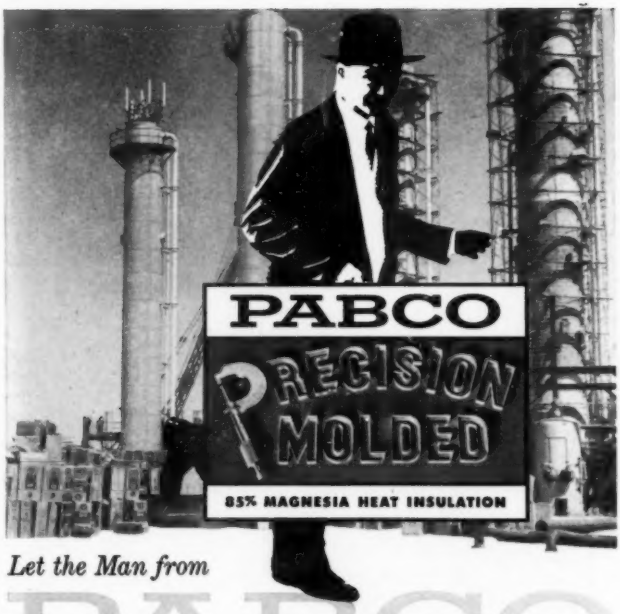
In his new post he will head up all Johns-Manville advertising and sales promotion activities as Sales Promotion Manager, succeeding*H. M. Shackelford*, who has retired after nearly 30 years service.

Mr. Johnson assumes responsibility for directing all J-M advertising programs, including consumer, trade and industry advertising, and production of all sales promotion literature, displays, catalogs, industry and trade exhibits and motion pictures. One of his important responsibilities will be as executive sponsor of the J-M television program "Meet The Press".

IDCNA ELECTS NEW MEMBER

J. G. Warren, President, Asbestos Insulating and Roofing Co.. Inc., of Fort Wayne, Indiana, has been elected to active membership in the Insulation Distributor-Contractors National Association.

IDCNA is a trade association of the men who apply and manufacture insulation for industry. The postwar advances of American industry have necessitated the development of a contractor specializing in the application of the insulation required by various new industrial processes.



Let the Man from

PABCO

Explain the advantages of Pabco Precision Molded 85% Magnesia and Caltemp Heat Insulation

The Man from Pabco is an Insulation Engineer. He welcomes the opportunity to prove that Pabco Precision Molded 85% Magnesia sets a new, high standard of performance in every field of heat insulation. Get all the facts! Make a date to talk with the Man from Pabco. No obligation, of course.

PABCO INSULATION DIVISION *Fibreboard Paper Products Corporation, San Francisco 19 • New York 16 • Chicago 54 • Houston 4 • South Gate, Calif. • Manufacturers of Heat Insulation since 1920*

PATENTS

Abstracts of U. S. Patents on Asbestos and Asbestos Products by Oliver S. North.

Copies of patents can be obtained by sending 25 cents (in coin) to The Commissioner of Patents, Washington 25, D. C., giving the patent number, date it was issued, name of patentee and name of invention.

Preparation of Coated Asbestos-Cement Products. No. 2,778,283. Granted on January 22, 1957 to P. S. Bettoli, G. L. Brown, C. R. Eckert and B. B. Kine. An improved process for manufacturing non-efflorescing coated asbestos-cement shingles and siding. The surfaces are coated with an aqueous dispersion of a resinous copolymer to render them resistant to moisture and weathering.

Machine For Manufacturing Weldless Asbestos-Cement Pipes. No. 2,778,285. Granted on January 22, 1957 to C. Pasquale; assignor to R. C. M. Revisione Costruzione Macchine Societa in nome collettivo, Turin, Italy. A simple low-cost machine for manufacturing weldless asbestos-cement pipe from a continuous asbestos- cement web.

Production of Composite Glass and Asbestos Yarn. No. 2,778,763. Granted on January 22, 1957 to I. J. Novak; assignor to Raybestos-Manhattan, Inc., Passaic, N. J. A process for manufacturing from glass fibres and "unit" chrysotile asbestos fibres an improved composite fire-resistant yarn. The fine chrysotile fibres acts as cushioning between the much larger diameter glass fibres, thus reducing destructive glass-on-glass contact.

Apparatus for Making Boardlike Products From a Fibrous Cement-Mixture. No. 2,779,252. Granted on January 29, 1957 to A. Welz; assignor to Filtrox-Werk A. G. Sittertobel, St. Gallen, Switzerland. A new process and apparatus for manufacturing board products from a slurry comprising water, asbestos fibre, and a binder, such as portland cement. Product strength is improved by eliminating the usual scooping up of the mixture with a cylindrical sleeve, which operation tends to cause alignment of the fibres in the product.

Manufacture of Abrasive Products. No. 2,780,534. Granted on February 5, 1957 to J. N. Kuzmick and D. W. Bell; assignor to Raybestos-Manhattan Inc., Passaic, N. J. Improved grinding wheels, discs, etc., can be made from mixtures of antimony sulfide, cryolite, and a formaldehyde resin powder. Asbestos floats may be added to the composition to improve the properties of the product.

Fire Retardant Coated Roofing Sheet and Process for Preparing. No. 2,782, 129. Granted on February 19, 1957 to J. W. Donegan; assignor to Allied Chemical & Dye Corp., New York. N. Y. In the manufacture of fire retardant asphalt roofing and

B B A
The processes of converting crude Asbestos into a wide range of products are carried out entirely in our factory at Cleckheaton. Long experience in a highly specialised industry is supported by a well-equipped modern laboratory devoted to intensive research and experimental work. B.B.A. Products include Asbestos Fibre, Yarns, Tapes, Cloths, Packings, Rovings, Tubing, Webbing, Clothing, Jointing, Mintex Brake and Clutch Liners and other Friction Materials, all types of belting for industry including Scandura the original P.V.C. fireproof conveyor belting.
BRITISH BELTING & ASBESTOS LTD
CLECKHEATON, YORKSHIRE, ENGLAND
LONDON OFFICE 59 SOUTHWARK STREET, S.E.1.

shingles, an asphalt-saturated felt base is surface coated with a double layer of a composition comprising asphalt and from 5 percent to about 20 percent of asbestos fibre of a grade equivalent to a group 7 grade. A layer of unexpanded vermiculite particles is disposed between the asbestos-asphalt layers to improve the action of the material under the impact of fire.

NATIONAL GYPSUM ENTERS COMMERCIAL CONSTRUCTION FIELD

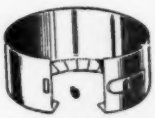
National Gypsum Co., long primarily a manufacturer of home building materials, has entered the commercial construction field "in a major way." The Company has also intensified its industrial sales program devoted to products used in various manufacturing processes.

The Company put into effect a major reorganization of its sales force "designed to bring our salesmen much closer to the high volume industrial and commercial construction markets."

Acoustical, corrugated asbestos and roof deck products had been sold by separate sales forces. Now the sales forces have been combined to form the new Commercial Trade Sales Division, headed by *J. W. Duncan.* The salesmen now will sell all three product lines in "much smaller territories," but these salesmen later will sell the new products "when they are released by Research."

A total of seven new commercial and industrial sales divisions have been set up. The new Commercial Sales Divisions and their managers are: Eastern, *Walter J. Wielgus;* Southern, *John B. Garland;* Southwestern, *Charles C. Jordan, Jr.* and Midwestern, *H. William Orth.*

General Industrial Sales Manager *Amos B. Miner* announced the following new Industrial Division Sales Managers: Eastern, *John E. Kelly, Jr.;* Western, *Robert S. Hamme,* and Southern, *Walter S. Hamme.*



PIPE COVERING PROTECTORS

The "Royal" All Aluminum Adjustable and Permanent Protector for Pipe Covering-ends. Easy to Apply . . . Prompt Shipment.

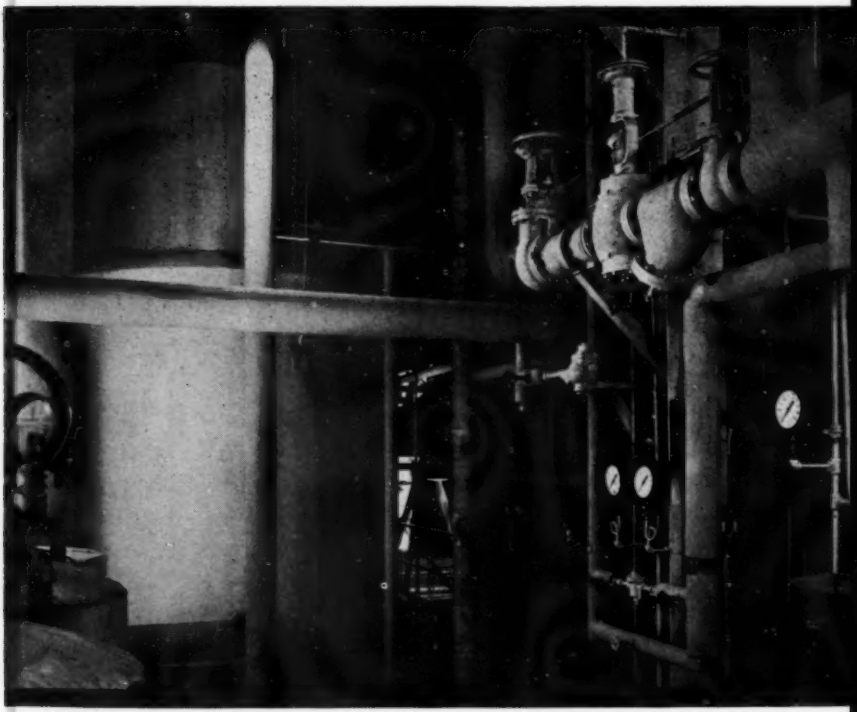
THE PROTECTOR CO. • GRANT WILSON, INC.

SO. BOSTON 27, MASS. CHICAGO 4, ILL.

ONLY APPROVED CONTRACTORS INSTALL EHRET INSULATIONS

The THERMALITE 85% Magnesia Insulation in this boiler room is typical of the faultless work of Ehret-approved contractors. Only men fully skilled in the application of Ehret products are entrusted with their installation. Result: Full insulating value and long, trouble-free service life with economical heating.

Standard inventories of THERMALITE are maintained by distributors in all principal cities. For the full story of this money-saving insulating material, see your Ehret Distributor or write direct for Bulletin 11C to the address below.



Typical THERMALITE installation. THERMALITE has unusually low thermal conductivity, is molded to exact shape, assuring tight joints and snug pipe fits essential for maximum heat economy.

SAVE HEAT WITH EHRET INSULATIONS

EHRET MAGNESIA MANUFACTURING COMPANY

VALLEY FORGE, PENNSYLVANIA

SOUTHERN ASBESTOS

ASBESTOS CLOTH

Southern weaves a complete range of Asbestos Cloth. A large number of Standard and Special Cloths available in all styles, textures, grades, weights and thicknesses are shown here.

Our Textile Engineers and Research Department are continually developing specialized Asbestos Cloth and exploring new uses for our present cloths. Their service is available to you. Write for Bulletin No. 1004.

A COMPLETE LINE OF ASBESTOS TEXTILE PRODUCTS

THREAD • CORD • ROVING • TUBING
CARDED FIBRE • LISTING TAPE
YARNS • ROPE • OIL BURNER WICK

Southern Asbestos Company has over 25 years of specialized experience in developing and manufacturing Asbestos Textiles and Textile Products. Its technical and production facilities are available to help solve your problems involving asbestos fibre and textiles.

SOUTHERN ASBESTOS COMPANY • CHARLOTTE 1, N. C.

S

. C.